**DERWENT-ACC-NO:** 

1995-036513

DERWENT-WEEK:

199611

**COPYRIGHT 1999 DERWENT INFORMATION LTD** 

TITLE:

Ceramic coatings made by vacuum deposition from vapours

- contg silicon, oxygen, nitrogen and/or carbon, induced by UV radiation from a silent discharge excimer lamp

INVENTOR: FERNANDEZ FERNANDEZ, M D; GARCIA PARADA, E ; GONZALEZ

FERNANDEZ, PM

; LEON FONG, B M ; PEREZ-MARTINEZ Y PEREZ-AMOR, M ; POU SARACHO, J M

; SERRA RODRIGUEZ. J

PATENT-ASSIGNEE: UNIV VIGO[UYVIN]

PRIORITY-DATA: 1993ES-0001284 (June 10, 1993)

**PATENT-FAMILY:** 

**PUB-NO** PUB-DATE **LANGUAGE PAGES** MAIN-IPC WO 9429493 A2 December 22, 1994 S 010 C23C 016/48 WO 9429493 A3 --February 9, 1995 N/A 000 C23C 016/48 ES 2067410 A1 March 16, 1995 N/A 000 C23C 014/06 ES 2067410 B1 November 1, 1995 N/A 000 C23C 014/06

DESIGNATED-STATES: CA JP US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

CITED-DOCUMENTS: 5.Jnl.Ref; EP 402798; EP 421834; JP 62074084; US 4631199

**APPLICATION-DATA:** 

PUB-NO APPL-DESCRIPTOR APPL-NO APPL-DATE WO 9429493A2 N/A 1994WO-ES00058 June 9, 1994 WO 9429493A3 N/A 1994WO-ES00058 June 9, 1994 ES 2067410A1 N/A 1993ES-0001284 June 10, 1993 ES 2067410B1 N/A 1993ES-0001284 June 10, 1993

INT-CL (IPC): C23C014/06, C23C014/16, C23C014/28, C23C016/30,

C23C016/48

ABSTRACTED-PUB-NO: WO 9429493A

BASIC-ABSTRACT:

Coatings of formula SiaObNcCd, in which a,b,c,d can have any value including zero, are made by (a) cleaning the substrate at component with organic solvent; (b) placing in a reactor with controls for vacuum, temp, gas flow and pressure; (c) introducing gas mixts., namely SiH4, Si2H6 or other silicon gas, N2O, O2,

CO2 or other gas to provide oxygen, NH3 or other gas to provide nitrogen, and/or CH4, C2H2, C2H4 or other gas to provide carbon; and (d) heating while the gas mixt. under high vacuum is irradiated by a silent discharge excimer lamp through a window in the reactor. The conditions may be varied during the process to produce a graduated coating.

USE - In micro- or opto-electronics, solar cells and protective coatings.

ADVANTAGE - Coatings can be deposited at low temp. down to 100 deg. C. Extensive areas and irregular shapes can be coated. Wide variations are possible in substrate, coating compsn. number of layers, etc.

CHOSEN-DRAWING: Dwg.0/1

TITLE-TERMS: CERAMIC COATING MADE VACUUM DEPOSIT VAPOUR CONTAIN SILICON OXYGEN

NITROGEN CARBON INDUCE ULTRAVIOLET RADIATE SILENT DISCHARGE

EXCIMER LAMP

DERWENT-CLASS: L02 L03 M13 U11 U12 X15

CPI-CODES: L01-G04; L02-A02B; L03-J; M13-E02;

EPI-CODES: U11-C05B2; U12-A02A4B; X15-A02A;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 0323U; 0326U; 0327U; 1066U; 1713U;

1779U

; 1831U ; 1881U

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1995-016447 Non-CPI Secondary Accession Numbers: N1995-028702

## PCT ORGANIZACION MUNDIAL DE LA PROPIEDAD INTELECTUAL Oficina Internacional OLICITUD INTERNACIONAL PUBLICADA EN VIRTUD DEL TRATADO DE

COOPERA

SOLICITUD INTERNACIONAL PUBLICADA	A EN VIRTUD DEL TRATADO DE COOPERACION
EN MATERIA	DE PATENTES (PCT)
) Chairman for the transfer of	

(51) Clasificación Internacional de Patentes 5 :	A2	(11) Número de publicación internacional:	WO 94/29493
C23C 16/48, 16/30		(43) Fecha de publicación internacional: 22 de Dici	iembre de 1994 (22.12.94)
_			

(21) Solicitud internacional:

PCT/ES94/00058

(22) Fecha de la presentación internacional:

9 de Junio de 1994 (09.06.94)

(30) Datos relativos a la prioridad: . P 9301284 .10 de Junio

10 de Junio de 1993 (10.06.93) ES

(71) Solicitante (para todos los Estados designados salvo US): UNIVERSIDADE DE VIGO [ES/RS]; Calle Oporto, 1, E-36200 Vigo (ES).

(72) Inventores; e

(75) Investores/solicitantes (sólo US): GONZALEZ FERNAN-DEZ, Fio, Manuel [ES/ES]; Mouriscados, E-36877 Mondariz (ES). GARCIA PARADA, Eduardo [ES/ES]; Avenida das Canelias, 36 - 2°F, E-36202 Vigo (ES). POU SARACHO, Juan Maria [ES/ES]; Calle Puerto Rico, 13 - 3°, E-36780 A Guardia (ES). FERNANDEZ FERNANDEZ, Maria Dolores (ES/ES); Calle Cénovas del Castillo, 12 - 4°, E-36202 Vigo (ES). SERRA RODRIGUEZ, Julia (ES/ES); Calle Vézquez Varela, 24 - 2°, E-36204 Vigo (ES). LEON PONG, Betty Mireya (ES/ES); Avenida Castelao, B1. 58-8D, E-36209 Vigo (ES). PEREZ-MARTINEZ Y PEREZ-AMOR, Mariano Jesus [ES/ES]; Calle Gran Vía, 130 - 4°B, E-36208 Vigo (ES).

(81) Estados designados: CA, IP, US, Patente curopea (AT, BE,

Publicada

SE).

Sin informe de búsqueda internacional, será publicada nuevamente cuando se reciba dicho informe.

CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT,

- (54) Title: CERAMIC COATINGS PRODUCED BY THE USE OF A SILENT DISCHARGE EXCIMER LAMP
- (54) Títulos RECUBRIMIENTOS CERAMICOS PRODUCIDOS MEDIANTE LAMPARA EXCIMERA DE DESCARGA SILENCIOSA

## (57) Abstract

Ceramic coatings within the system Si-O-N-C, may be applied to various materials and components by means of a method based on the lamp-induced chemical vapor deposition (Lamp-CVD). The flexibility of this method makes possible the control of the physic-chemical properties of the coatings which apply specially to the fields of microelectronics, optoelectronics, solar cells and protection of materials.

## (57) Resumen

Recubrimientos cerámicos dentro del sistema Si-O-N-C, pueden ser aplicados sobre diferentes materiales y componentes por medio de un método basado en la Deposición Química a partir de Vapor inducida por Lámpara (Lamp-CVD). La flexibilidad de este método permite controlar las propiedades físico-químicas de los recubrimientos, siendo de especial aplicación en los campos de la microelectrónica, optoelectrónica, células solares y protección de materiales.

12/04/2003, EAST Version: 1.4.1